health, tends to augment the number of red corpuscles, to increase the temperature and weight of the subject, and to favour trophic phenomena; (2) that in a diseased condition of the tissues of considerable extent, they produce anæmia by aiding in morbid changes; and, (3) "on the one hand, they increase physiological function, while, on the other, they stimulate pathological processes." The memoir was presented by M. Cl. Bernard.—*Edinburgh Med. Journ.*, Oct. 1875, from *Comptes Rendus*, May, 1875.

MATERIA MEDICA, GENERAL THERAPEUTICS, AND PHARMACY.

4. *Warburg's Tincture.*—This anti-pyretic remedy, which has attained much celebrity, and the composition of which was kept secret, has just been made public, in a paper by Prof. Maclean, of the Netley Medical School, published in the *Medical Times and Gazette*, of Nov. 13, 1875.

"It will be seen," says Prof. Maclean, "that quinine is the most important ingredient in the formula, each ounce bottle containing nine grains and a half of the alkaloid. Its presence has been detected by every chemist who has attempted its analysis, and never doubted by any medical man of experience who has used the tincture. Many will say 'after all, this vaunted remedy is only quinine concealed in a farrago of inert substances for purposes of mystification.' To this objection my answer is: I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the base of mountain ranges in India, on the Coromandel coast, in the pestilential highlands of the Northern Division of the Madras Presidency, on the malarial rivers of China, and in men brought to Netley Hospital from the swamps of the Gold Coast, and I affirm that I have never seen quinine, when given alone, act in the manner characteristic of this tincture. And, although I yield to no one in my high opinion of the inestimable value of quinine, I have never seen a single dose of it given alone, to the extent of nine grains and a half, suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence; while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about both results."

The following is the formula for its preparation:—

℞. Aloes (Socotr.) libram; rad. rhei (East India); sem. angelicæ; [1]confect. fect. damocratis; ana uncias quatuor.

Rad. helenii (s. enulæ); croci sativi; sem. fœnicul.; [2]cret. præparat.; ana uncias duas.

Rad. gentianæ; rad. zedoariæ; pip. cubeb.; myrrh. elect.; camphor; [3]bolet. laricis; ana unciam.

The above ingredients are to be digested with 500 oz. proof spirits in a water-bath for twelve hours; then expressed, and added ten ounces of disulphate of quinine; the mixture to be replaced into the water-bath till all quinine be dissolved. The liquor, when cool, is to be filtered, and is then fit for use.

The mode of administering it is as follows:—

"One half ounce (half a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterwards, particularly in hot climates, profuse, but seldom exhausting, perspiration is produced. This has a strong aromatic odour, which I have often detected about the patient and his room on the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache—in a word, complete defervescence—and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required."

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[1] This confection, which consists of an immense variety of aromatic substances, was once officinal, and is to be found in the London Pharmacopœia, 1746.

[2] Dr. Warburg informs me that this ingredient was added to correct the otherwise extremely acrid taste of the Tincture. Many other substances were tried, but none answered so well as prepared chalk.

[3] This is the Polyporus Laricis (P. officinalis, Boletus purgans or Larch Agaric), "formerly," says Pereira, "used as a drastic purgative, and still kept by the herbalist."

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5. *Monobromide of Camphor.*—In a recently published pamphlet Dr. Pathault furnishes an abstract of the literature of this compound, which was discovered and described by Swartz in 1862, and was introduced into medicine in 1871 by Deneffe. On the physiological action of the drug, to which he adds one or two original observations, he closely follows M. Bourneville and Dr. Lawson, and finds that it is eliminated in the urine.

It lessens the frequency of the pulse and the number of respirations, causes a marked and regular depression of temperature, and exerts a decided hypnotic influence (on guinea-pigs and rabbits). On the whole, it appears to be an energetic nervous sedative and an undoubted anti-spasmodic; but certain difficulties and objections attend its continued use.

It has been administered in delirium tremens, insomnia, chorea, infantile convulsions, hysteria, dyspnœa, neuralgia, irritative genito-urinary affections, and in a considerable number of cases of epilepsy by M. Bourneville. This observer thinks that the bromide of camphor is formally indicated in vertiginous epilepsy; but, with the exception of reducing their frequency, it cannot be said to have much influence on the fits themselves.

From the insolubility of the drug in water, it may be administered in pills, *dragées*, or capsules; preferably the latter (each capsule containing 3 grs.). The doses hitherto given have varied from 6 to 60 grs. The remedy is not adapted for hypodermic injection.

The experience of MM. Trasbot, Dujardin-Beaumetz, and Gubler (*London Med. Record*, March 3, 1875) does not confirm the good effects claimed for this medicine, and doubt is cast upon some of M. Bourneville's physiological observations.

Dr. Valenti y Vivo (*Siglo Medico*, April 18, 1875) has made a series of researches on dogs, and has arrived at the conclusion that monobromide of camphor may be considered antidotal to strychnia. The physiological antagonism is comparatively limited, and a full dose, from 60 to 90 grs., should be given in small and repeated quantities.—*Dublin Med. Journal*, Sept. 1875.

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6. *Salicylate of Soda.*—The *Berliner Klin. Wochenschrift* contains an article on the effects of salicylate of soda as an antifebrile, by Dr. Moeli, of the Rostock University Hospital. According to Kölbe, the salts of salicylic acid possess no antiseptic properties, which has been confirmed by other observers, their preserving effects on organic matter being derived from the amount of free acid in them and proportionate to it. The trials of this at present in Germany rather fashionable acid as an antifebrile induced the author to try the salt as such, the presence of alkali being indispensable for the absorption of the acid into the circulation, and soda appearing preferable to potassa. The solution of salicylate of soda (the acid is obtained from this salt by the wholesale manufacturing process, and therefore the latter is not dearer than the former) is of a brown colour and unpleasant taste; the addition of extract of glycyrrhiza or some wine taken with the dose is therefore recommended. From four to five grammes of the salt is the usual quantity given every other evening in cases where the larger doses of the sulphate of quinine (1.5 to 2.0 grammes) would be required. Several cases of typhoid fever (altogether seven), in which the drug was used without the cold bath or any other remedy, showed after each dose a constant decrease of temperature (from 2° to 3° C.), lasting over twenty-four hours, combined with a diminished frequency of pulse. An increase in the quantity of urine was not observed in the twenty-four cases of miscellaneous febrile diseases in which the salt had been administered. In half the